

Patent claims

1. A window lift system, comprising:

a pulling device;

a catch for a window pane, the catch being moved up and down by the pulling device, the catch having (i) a first fastening point for an upwardly pulling end of the pulling device and (ii) a second fastening point for a downwardly pulling end of the pulling device, the second fastening point being horizontally off-set from the first fastening point in the window pane plane when the window pane is fitted; and

an arrangement positioning and fixing the catch in respect of at least three degrees of freedom such that the catch is kept in a position defined in respect of said degrees of freedom even when the window pane is not fitted.

2. The window lift system according to claim 1, wherein the window lift system is utilized for a side window of an automotive vehicle.

3. The window lift system according to claim 1, wherein the arrangement is suitable for positioning and fixing the catch in respect of one of four, five and six degrees of freedom.

4. The window lift system according to claim 1, wherein the pulling device has one of a cable pull and a chain to which the upwardly and downwardly pulling ends belong.

5. The window lift system according to claim 1, wherein the catch has an upwardly opening slit for receiving a lower edge of the window pane.

6. The window lift system according to claim 1, wherein the

catch has at least one locking element for snapping into a recess in the window pane.

7. The window lift system according to claim 1, wherein the catch has at least one opening, a pin being provided to be received as an exact fit by the at least one opening as well as by a recess in the window pane which is aligned with the at least one opening once the window pane is fitted.

8 The window lift system according to claim 1, wherein the arrangement is one of (i) provided by a lower stop for the catch and (ii) including the lower stop.

9. The window lift system according to claim 8, further comprising:

a guiding arrangement laterally guiding the catch at least in a lower movement section in a vicinity of the lower stop.

10. The window lift system according to claim 9, wherein the guiding arrangement includes at least one of walls which guide the catch laterally and a cone on which the catch sits in a lowermost position.

11. The window lift system according to claim 10, wherein the walls converge downwards in a manner of a funnel.

12. A side panel module comprising a window lift system according to claim 1.

13. The side panel module according to claim 12, wherein the arrangement includes an opening in a panel part of the side panel module and a corresponding opening in the catch, as well as a pin which pushes through these openings for fixing the catch in a

defined fitting position.

14. A door module comprising a window lift system according to claim 1.

15. The door module according to claim 14, wherein the arrangement includes an opening in a panel part of the door module and a corresponding opening in the catch, as well as a pin which pushes through these openings for fixing the catch in a defined fitting position.

16. A side door for an automotive vehicle comprising one of (i) a window lift system according to claim 1, (ii) a side panel module according to claim 10 and (iii) a door module according to claim 10a.

17. A method for fitting a window pane in one of (a) a window lift system according to claim 1, (b) a side panel module according to claim 12, (c) a door module according to claim 14 and (d) a vehicle side door according to claim 16, the method comprising:

positioning and fixing the catch in respect of said degrees of freedom using the arrangement;

introducing the window pane into the window lift system until the window pane and the catch assume positions which correspond to each other; and

connecting the window pane to the catch as one of a form-fit and in a force-locking manner.

18. The method according to claim 17, wherein, before the introducing step, the catch is fixed in a position which corresponds to a possible position of the catch once the window pane is fitted.

19. The method according to claim 17, wherein, before the introducing step, the catch is not yet fixed, in respect of at least one degree of freedom, in a position which corresponds to a position of the catch once the window pane is fitted, and wherein the catch is only pressed into the above-mentioned position by the introduction of the window pane, in which position connection of the window pane and catch takes place.